

## PCT REQUEST

WJ503786/142

Original (for SUBMISSION) - printed on 03.10.2003 03:57:50 PM

0	For receiving Office use only	
0-1	International Application No.	
0-2	International Filing Date	
0-3	Name of receiving Office and "PCT International Application"	
0-4	Form - PCT/RQ/101 PCT Request	
0-4-1	Prepared using	PCT-EASY Version 2.92 (updated 01.07.2003)
0-5	Petition	
	The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty	
0-6	Receiving Office (specified by the applicant)	Intellectual Property Office of New Zealand (RO/NZ)
0-7	Applicant's or agent's file reference	WJ503786/142
I	Title of invention	ANTENNA ARRAY
II	Applicant	
II-1	This person is:	applicant only
II-2	Applicant for	all designated States except US
II-4	Name	INDUSTRIAL RESEARCH LIMITED
II-5	Address:	Brooke House 24 Balfour Road Parnell 1001 Auckland New Zealand
II-6	State of nationality	NZ
II-7	State of residence	NZ
II-8	Telephone No.	+64 9 9203100
II-9	Facsimile No.	+64 9 3070618
III-1	Applicant and/or inventor	
III-1-1	This person is:	applicant and inventor
III-1-2	Applicant for	US only
III-1-4	Name (LAST, First)	BOGOSANOVIC, Mirjana
III-1-5	Address:	2/8 Otahuri Crescent Greenlane 1005 Auckland New Zealand
III-1-6	State of nationality	NZ
III-1-7	State of residence	NZ

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IV-1	Agent or common representative; or address for correspondence The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:	agent
IV-1-1	Name	BALDWIN SHELSTON WATERS
IV-1-2	Address:	PO Box 5999 Wellesley Street 1001 Auckland New Zealand
IV-1-3	Telephone No.	+64 9 373 3137
IV-1-4	Facsimile No.	+64 9 373 2123
IV-1-5	e-mail	email@bsw.com
V	Designation of States	
V-1	Regional Patent (other kinds of protection or treatment, if any, are specified between parentheses after the designation(s) concerned)	<p>AP: GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW and any other State which is a Contracting State of the Harare Protocol and of the PCT</p> <p>EA: AM AZ BY KG KZ MD RU TJ TM and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT</p> <p>EP: AT BE BG CH&amp;LI CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SK TR and any other State which is a Contracting State of the European Patent Convention and of the PCT</p> <p>OA: BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG and any other State which is a member State of OAPI and a Contracting State of the PCT</p>
V-2	National Patent (other kinds of protection or treatment, if any, are specified between parentheses after the designation(s) concerned)	<p>AE AG AL AM AT (patent and utility model) AU AZ BA BB BG BR BY BZ CA CH&amp;LI CN CO CR CU CZ (patent and utility model) DE (patent and utility model) DK (patent and utility model) DM DZ EC EE (patent and utility model) EG ES FI (patent and utility model) GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT (patent and utility model) RO RU SC SD SE SG SI SK (patent and utility model) SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW</p>

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V-6	<b>Precautionary Designation Statement</b> In addition to the designations made under items V-1, V-2 and V-3, the applicant also makes under Rule 4.9(b) all designations which would be permitted under the PCT except any designation(s) of the State(s) indicated under item V-6 below. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit.		
V-6	Exclusion(s) from precautionary designations	NONE	
VI-1	Priority claim of earlier national application		
VI-1-1	Filing date	04 October 2002 (04.10.2002)	
VI-1-2	Number	521823	
VI-1-3	Country	NZ	
VI-2	<b>Priority document request</b> The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) identified above as item(s):	VI-1	
VII-1	International Searching Authority Chosen	Australian Patent Office (ISA/AU)	
VIII	Declarations	Number of declarations	
VIII-1	Declaration as to the identity of the inventor	-	
VIII-2	Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent	-	
VIII-3	Declaration as to the applicant's entitlement, as at the international filing date, to claim the priority of the earlier application	-	
VIII-4	Declaration of inventorship (only for the purposes of the designation of the United States of America)	-	
VIII-5	Declaration as to non-prejudicial disclosures or exceptions to lack of novelty	-	
IX	Check list	number of sheets	electronic file(s) attached
IX-1	Request (including declaration sheets)	4	-
IX-2	Description	15	-
IX-3	Claims	4	-
IX-4	Abstract	1	EZABST00.TXT
IX-5	Drawings	8	-
IX-7	TOTAL	32	

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	Accompanying Items	paper document(s) attached	electronic file(s) attached
IX-8	Fee calculation sheet	✓	-
IX-17	PCT-EASY diskette	-	Diskette
IX-19	Figure of the drawings which should accompany the abstract	3	
IX-20	Language of filing of the international application	English	
X-1	Signature of applicant, agent or common representative	BALDWIN SHELSTON WATERS JONES, David, Westlake Patent Attorney	
X-1-1	Name		
X-1-2	Name of signatory		
X-1-3	Capacity		

## FOR RECEIVING OFFICE USE ONLY

10-1	Date of actual receipt of the purported international application	
10-2	Drawings:	
10-2-1	Received	
10-2-2	Not received	
10-3	Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application	
10-4	Date of timely receipt of the required corrections under PCT Article 11(2)	
10-5	International Searching Authority	ISA/AU
10-6	Transmittal of search copy delayed until search fee is paid	

## FOR INTERNATIONAL BUREAU USE ONLY

11-1	Date of receipt of the record copy by the International Bureau	
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**PCT (ANNEX - FEE CALCULATION SHEET)**

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(This sheet is not part of and does not count as a sheet of the international application)

<b>0</b>	<b>For receiving Office use only</b>	
<b>0-1</b>	International Application No.	
<b>0-2</b>	Date stamp of the receiving Office	
<b>0-4</b>	<b>Form - PCT/RO/101 (Annex)</b>	
<b>0-4-1</b>	PCT Fee Calculation Sheet Prepared using	<b>PCT-EASY Version 2.92 (updated 01.07.2003)</b>
<b>0-9</b>	Applicant's or agent's file reference	<b>WJ503786/142</b>
<b>2</b>	Applicant	<b>INDUSTRIAL RESEARCH LIMITED, et al.</b>
<b>12</b>	<b>Calculation of prescribed fees</b>	<b>fee amount/multiplier      Total amounts (NZD)</b>
<b>12-1</b>	Transmittal fee <b>T</b>	<b>⇒ 202.5</b>
<b>12-2-1</b>	Search fee <b>S</b>	<b>⇒ 1,073</b>
<b>12-2-2</b>	International search to be carried out by	<b>AU</b>
<b>12-3</b>	International fee	
	Basic fee	
	(first 30 sheets) <b>b1</b>	<b>890</b>
<b>12-4</b>	Remaining sheets	<b>2</b>
<b>12-5</b>	Additional amount <b>(X)</b>	<b>20</b>
<b>12-6</b>	Total additional amount <b>b2</b>	<b>40</b>
<b>12-7</b>	<b>b1 + b2 = B</b>	<b>930</b>
<b>12-8</b>	Designation fees	
	Number of designations contained in international application	<b>99</b>
<b>12-9</b>	Number of designation fees payable (maximum 5)	<b>5</b>
<b>12-10</b>	Amount of designation fee <b>(X)</b>	<b>192</b>
<b>12-11</b>	Total designation fees <b>D</b>	<b>960</b>
<b>12-12</b>	PCT-EASY fee reduction <b>R</b>	<b>-274</b>
<b>12-13</b>	Total International fee (B+D-R) <b>I</b>	<b>⇒ 1,616</b>
<b>12-14</b>	Fee for priority document	
	Number of priority documents requested	<b>1</b>
<b>12-15</b>	Fee per document <b>(X)</b>	<b>0</b>
<b>12-16</b>	Total priority document fee <b>P</b>	<b>⇒ 0</b>
<b>12-17</b>	<b>TOTAL FEES PAYABLE (T+S+I+P)</b>	<b>⇒ 2,891.5</b>
<b>12-19</b>	Mode of payment	<b>cheque</b>

VALIDATION LOG AND REMARKS

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13-2-7	Validation messages Contents	<b>Yellow!</b> The power of attorney or a copy of the general power of attorney will need to be furnished unless all applicants sign the request form.
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PCT

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**PCT-EASY INFORMATION SHEET**

(For applicant use only, DO NOT submit this sheet with the international application)

**VALIDATION LOG**

Yellow1.	<b>Contents</b> The power of attorney or a copy of the general power of attorney will need to be furnished unless all applicants sign the request form.
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Before submitting the International Application, please carefully verify that:

- the information contained on printed Request form is correct;
- Box X of the Request form has been signed;
- all elements of the international application as indicated in Boxes VIII and IX of the Request form have been attached; and,
- the diskette containing the PCT-EASY zip file of the International Application has been enclosed and has been clearly labeled "PCT-EASY", with the applicant's or agent's file reference, and the first applicant's name.

**ATTENTION**

DO NOT modify any indications on the Request form printout. The electronic version of the PCT-EASY application has been locked. If an error or an omission is discovered at this time, you must reopen the stored form for submission, perform necessary amendments and immediately resubmit the form. Finally, a NEW submission diskette must be created manually by resending the corrected stored form to the diskette. The previously created printout and submission diskette must be destroyed in order to prevent the possibility of erroneously sending it to the RO.

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## ANTENNA ARRAY

### ABSTRACT

A focussed beam antenna array includes a plurality of element antennas and a feeding network connecting the element antennas to one or more microwave sources. A feeding coefficient is provided for each element antenna.

One or both of i) the relative position of the element antennas, and ii) the feeding coefficient for each element antenna may be selected to cause microwave signals transmitted from the antenna array to focus on a required focal surface. The array enables microwave signals to be focussed in the near field zone, providing particular advantages in applications such as sensing a property (for example permittivity or related parameters such as moisture content and density) of objects such as fruit or wood.